

***FlyBy Math™* Alignment to  
Wyoming Mathematics Content and Performance Standards  
Adopted July 7, 2003**

**Content Standard 1: Number Operations and Concepts**

**Students use numbers, number sense, and number relationships in a problem-solving situation.**

<b>Benchmark: Grade 11</b>	<b><i>FlyBy Math™</i> Activities</b>
3. Students explain their choice of estimation and problem-solving strategies and justify results in problem-solving situations involving real numbers.	--Explain and justify solutions regarding the motion of two airplanes using the results of plotting points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system.
4. Students use proportional reasoning to solve problems.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

**Content Standard 2: Geometry**

**Students apply geometric concepts, properties, and relationships in problem-solving situations.**

<b>Benchmark: Grade 11</b>	<b><i>FlyBy Math™</i> Activities</b>
3. Students communicate the reasoning used in identifying geometric relationships in problem-solving situations.	--Explain and justify solutions regarding the motion of two airplanes using the results of plotting points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system.
4. Students solve problems involving the coordinate plane such as distance between two points, the midpoint, and slope.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.  --Interpret the slope of a line in the context of a distance-rate-time problem.

**Content Standard 3: Measurement**

**Students use a variety of tools and techniques in measurement in a problem-solving situation.**

<b>Benchmark: Grade 11</b>	<b><i>FlyBy Math™</i> Activities</b>
1. Students apply estimation and measurement using the appropriate methods and units to solve problems involving length, weight/mass, area, surface area, volume, and angle measure.	--Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation.  --Predict outcomes and explain results of mathematical models and experiments.

3. Students identify and apply scale, ratios, and proportions in solving measurement problems.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
4. Students solve indirect measurement problems.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

#### **Content Standard 4: Algebra**

**Students use algebraic methods to investigate, model, and interpret patterns and functions involving numbers, shapes, data, and graphs in a problem-solving situation.**

<b>Benchmark: Grade 11</b>	<b><i>FlyBy Math™</i> Activities</b>
1. Students use algebraic concepts, symbols, and skills to represent and solve real-world problems.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
2. Students write, model, and evaluate expressions, functions, equations, and inequalities.	--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.
3. Students graph linear equations and interpret the results in solving algebraic problems.	--Represent distance, speed, and time relationships for constant speed cases using linear equations and a Cartesian coordinate system.
4. Students solve, graph, or interpret systems of linear equations.	--Represent distance, speed, and time relationships for constant speed cases using linear equations and a Cartesian coordinate system.  --Interpret the slope of a line in the context of a distance-rate-time problem.  --Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates.
5. Students connect algebra with other mathematical topics.	--Apply mathematics to predict and analyze aircraft conflicts and validate through experimentation.

#### **Content Standard 5: Data Analysis and Probability**

**Students use data analysis and probability to analyze given situations and the results of experiments.**

<b>Benchmark: Grade 11</b>	<b><i>FlyBy Math™</i> Activities</b>
4. Students determine, collect, organize, and analyze relevant data needed to make conclusions.	--Conduct simulation and measurement for several aircraft conflict problems.  --Represent distance, rate, and time data using tables, line plots, bar graphs, and line graphs.  --Use tables, bar graphs, line graphs, equations, and a Cartesian coordinate system to draw conclusions.